U.S. Application No.: 09/839,223

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the

application:

LISTING OF CLAIMS:

1-16. (canceled).

17. (previously presented): A hearing aid for insertion in the auditory canal, comprising

a shell matched to the auditory canal of a user, and a face plate, wherein said shell is

manufactured according to a digital model of the users auditory canal so as to have a shell

junction contour, shell positioning means, first component engagement means, and an acoustic

output opening, said first component engagement means being adapted for receiving and holding

a receiver,

wherein said face plate is manufactured according to said digital model so as to have a

circumference matching said junction contour, face plate positioning means, and second

component engagement means, and

wherein said face plate positioning means is adapted for engaging with said shell

positioning means, so as to make said shell and said face plate provide a hearing aid housing.

18. (currently amended): The hearing aid according to claim 17, wherein said face plate

positioning means comprises. A hearing aid for insertion in the auditory canal, comprising a shell

matched to the auditory canal of a user, and a faceplate,

U.S. Application No.: 09/839,223

wherein said shell is manufactured according to a digital model of the users auditory

canal so as to have a shell junction contour, shell positioning means, first component engagement

means, and an acoustic output opening, said first component engagement means being adapted

for receiving and holding a receiver,

wherein said face plate is manufactured according to said digital model so as to have a circumference matching said junction contour, at least one face plate protrusion at the inner surface of said face plate, wherein and second component engagement means, wherein said at least one face plate protrusion is adapted for engaging with said shell positioning means eomprise, so as to make said shell and said face plate provide a hearing aid housing, and

wherein said shell positioning means comprises indentations that are adapted to receive and match the at least one face-plate protrusion, and wherein said face plate is cut-along said circumference so that it matches said junction contour when the at least one face plate protrusion is received by the mating indentations of said shell.

19. (previously presented): The hearing aid according to claim 17, wherein said face plate positioning means comprises at least one face plate protrusion at the inner surface of said face plate terminating at the circumference of said face plate at a distance from the circumference that is substantially equal to the thickness of said shell at the junction contour, and wherein said shell positioning means comprises said shell at the junction contour.

Amendment under 37 C.F.R. § 1.116 Attorney Docket No.: Q64069 U.S. Application No.: 09/839,223

20. (previously presented): The hearing aid according to claim 19, wherein said shell positioning means further comprise protrusions at the junction contour extending inwardly towards the interior of said shell for reception and holding corresponding face plate protrusions.

- 21. (currently amended): A hearing aid for insertion in the auditory canal, comprising a hearing aid housing and a faceplate manufactured according to a digital model of the users auditory canal so that a first part provides a surface adapted to match the shape of the auditory canal of the user so as to have a shell junction contour, a second part provides a surface adapted to face the surroundings and having an outer circumference matching the shell junction contour, a battery opening and a socket engagement means, and a third part provides an end wall and an acoustic output opening.
- 22. (currently amended): The hearing aid according to claim 17, comprising an electronic module, at least one microphone, a signal processor, and a receiver, wherein said hearing aid housing is adapted to enclose said electronic module, and wherein said face plate defines a battery opening—adapted for passage of a battery and said electronic module. A hearing aid for insertion in the auditory canal, comprising a shell matched to the auditory canal of a user, a faceplate, and an electronic module,

wherein said shell is manufactured according to a digital model of the users auditory canal so as to have a shell junction contour, shell positioning means, first component engagement means, and an acoustic output opening, said first component engagement means, and an acoustic

U.S. Application No.: 09/839,223

wherein said shell is manufactured according to a digital model of the users auditory

canal so as to have a shell junction contour, shell positioning means, first component engagement

means, and an acoustic output opening, said first component engagement means being adapted

for receiving and holding a receiver,

wherein said face plate is manufactured according to said digital model so as to have a circumference matching said junction contour, at least one face plate protrusion at the inner surface of said face plate, wherein and second component engagement means, wherein said at least one face plate protrusion is adapted for engaging with said shell positioning means emprise, so as to make said shell and said face plate provide a hearing aid housing, and

wherein said shell positioning means comprises indentations that are adapted to receive and match the at least one face plate protrusion, and wherein said face plate is cut along said circumference so that it matches said junction contour when the at least one face plate protrusion is received by the mating indentations of said shell.

19. (previously presented): The hearing aid according to claim 17, wherein said face plate positioning means comprises at least one face plate protrusion at the inner surface of said face plate terminating at the circumference of said face plate at a distance from the circumference that is substantially equal to the thickness of said shell at the junction contour, and wherein said shell positioning means comprises said shell at the junction contour.

Amendment under 37 C.F.R. § 1.116 Attorney Docket No.: Q64069 U.S. Application No.: 09/839,223

20. (previously presented): The hearing aid according to claim 19, wherein said shell positioning means further comprise protrusions at the junction contour extending inwardly towards the interior of said shell for reception and holding corresponding face plate protrusions.

- 21. (currently amended): A hearing aid for insertion in the auditory canal, comprising a hearing aid housing and a faceplate manufactured according to a digital model of the users auditory canal so that a first part provides a surface adapted to match the shape of the auditory canal of the user so as to have a shell junction contour, a second part provides a surface adapted to face the surroundings and having an outer circumference matching the shell junction contour, a battery opening and a socket engagement means, and a third part provides an end wall and an acoustic output opening.
- 22. (currently amended): The hearing aid according to claim 17, comprising an electronic module, at least one microphone, a signal processor, and a receiver, wherein said hearing aid housing is adapted to enclose said electronic module, and wherein said face plate defines a battery opening—adapted for passage of a battery and said electronic module. A hearing aid for insertion in the auditory canal, comprising a shell matched to the auditory canal of a user, a faceplate, and an electronic module,

wherein said shell is manufactured according to a digital model of the users auditory canal so as to have a shell junction contour, shell positioning means, first component engagement means, and an acoustic output opening, said first component engagement means, and an acoustic

Amendment under 37 C.F.R. § 1.116 U.S. Application No.: 09/839,223

output opening, said first component engagement means being adapted for receiving and holding a receiver,

wherein said face plate is manufactured according to said digital model so as to have a circumference matching said junction contour, face plate positioning means, second component engagement means, and a battery opening adapted for passage of a battery and an electronic module,

wherein said face plate positioning means is adapted for engaging with said shell positioning means, so as to make said shell and said face plate provide a hearing aid housing adapted to enclose said electronic module, and

wherein said electronic module comprises at least one microphone, a signal processor, and a receiver.

- 23. (previously presented): The hearing aid according to claim 22, wherein said electronic module comprises socket engagement means, and wherein said second component engagement means comprises grooves, tracks and/or notches for engagement with said socket engagement means.
- 24. (previously presented): The hearing aid according to claim 23, wherein said second component engagement means comprises elastically resilient lugs.
- 25. (previously presented): The hearing aid according to claim 24, wherein said lugs are integrated with battery terminals projecting from said electronic module.

Amendment under 37 C.F.R. § 1.116 U.S. Application No.: 09/839,223

- 26. (previously presented): The hearing aid according to claim 17, wherein said shell has an integrated ventilation channel.
- 27. (previously presented): The hearing aid according to claim 17, wherein said acoustic output opening is adapted to receive and hold an ear wax guard.
- 28. (currently amended): The hearing aid according to claim 17, wherein said shell has a shell ventilation channel opening that is adapted to receive and hold an ear wax guard. A hearing aid for insertion in the auditory canal, comprising a shell matched to the auditory canal of a user, and a faceplate,

wherein said shell is manufactured according to a digital model of the users auditory

canal so as to have a shell junction contour, shell positioning means, first component engagement

means, and an acoustic output opening, said first component engagement means being adapted

for receiving and holding a receiver,

wherein said face plate is manufactured according to said digital model so as to have a circumference matching said junction contour, face plate positioning means, and second component engagement means,

wherein said face plate positioning means is adapted for engaging with said shell

positioning means, so as to make said shell and said face plate provide a hearing aid housing, and

wherein said shell has a shell ventilation channel opening that is adapted to receive and

hold an earwax guard.

Amendment under 37 C.F.R. § 1.116 U.S. Application No.: 09/839,223

- 29. (currently amended): The hearing aid according to claim 27 28, wherein said hearing aid housing comprises a pipe stub centered around said output opening, extending inwardly in said shell and forming a bushing for insertion of the ear wax guard.
- 30. (currently amended): The hearing aid according to claim 27 28, wherein said hearing aid housing is produced with a recess in said shell covering an area around said output opening and matching a collar of an ear wax guard or, matching a collar of a bushing to be inserted in the opening for reception and holding of an ear wax guard.
- 31. (currently amended): The hearing aid according to claim 17, A hearing aid for insertion in the auditory canal, comprising a shell matched to the auditory canal of a user, and a faceplate,

wherein said shell is manufactured according to a digital model of the users auditory

canal so as to have a shell junction contour, shell positioning means, first component engagement

means, and an acoustic output opening, said first component engagement means being adapted

for receiving and holding a receiver,

wherein said face plate is manufactured according to said digital model so as to have a circumference matching said junction contour, face plate positioning means, and second component engagement means,

wherein said face plate positioning means is adapted for engaging with said shell positioning means, so as to make said shell and said face plate provide a hearing aid housing, and

Amendment under 37 C.F.R. § 1.116 U.S. Application No.: 09/839,223

wherein said shell comprises a tightening protrusion extending along the surface of said shell and adapted for providing a tight seal against the auditory canal wall when said shell is inserted in the auditory canal.

- 32. (previously presented): The hearing aid according to claim 31, wherein said tightening protrusion is made of the same material as said shell, and wherein the outer dimensions of said shell are increased to form the tightening protrusion.
- 33. (previously presented): The hearing aid according to claim 17, comprising a groove extending along the surface of said shell and encircling said shell, said groove being adapted to seat a tightening ring adapted to constitute a tightening protrusion.
- 34. (previously presented): The hearing aid according to claim 17, comprising a groove extending along the surface of said shell for deposition of a material different from the material of said shell in the groove, the deposited material constituting a tightening protrusion.
- 35. (previously presented): The hearing aid according to claim 31, wherein the position of the tightening protrusion is selected to correspond to the position in the auditory canal at which the dynamic variations of the dimensions of the auditory canal exhibit the least variations caused by user activity.

U.S. Application No.: 09/839,223

36. (currently amended): The hearing aid according to claim 17, wherein said first component engagement means is adapted for vibration absorbing suspension of the receiver. A hearing aid for insertion in the auditory canal, comprising a shell matched to the auditory canal of a user, and a faceplate,

wherein said shell is manufactured according to a digital model of the users auditory

canal so as to have a shell junction contour, shell positioning means, first component engagement

means, and an acoustic output opening, said first component engagement means being adapted

for vibration absorbing suspension and holding of a receiver,

wherein said face plate is manufactured according to said digital model so as to have a circumference matching said junction contour, face plate positioning means, and second component engagement means, and

wherein said face plate positioning means is adapted for engaging with said shell positioning means, so as to make said shell and said face plate provide a hearing aid housing.

- 37. (previously presented): The hearing aid according to claim 36, wherein, said first component engagement means comprises a chamber for receiving and holding the receiver, and at least one resilient band fixed around the receiver.
- 38. (previously presented): The hearing aid according to claim 37, wherein said resilient band comprises a protrusion for supporting and suspending the receiver in the chamber.

U.S. Application No.: 09/839,223

39. (previously presented): A hearing aid for insertion in the auditory canal, comprising a hearing aid housing with a face plate comprising positioning means for engaging with corresponding positioning means of the shell so that the circumference of said face plate matches the junction contour of said shell when said face plate positioning means engage with said shell positioning means, wherein said shell is produced with means for vibration absorbing suspension of the receiver, and wherein the means for vibration absorbing suspension of the receiver comprises receiver supporting protrusions co-operating for receiving and holding the receiver, and at least one resilient band fixed around the receiver.

- 40. (previously presented): The hearing aid according to claim 39, wherein the at least one resilient band comprises at least one supporting protrusion for abutment with the receiver supporting protrusions.
- 41. (previously presented): The hearing aid according to claim 17, wherein said hearing aid housing further comprises an identification of the produced hearing aid housing.
- 42. (previously presented): The hearing aid according to claim 36, wherein said first component engagement means comprises shell protrusions for receiving and holding the receiver, and at least one resilient band fixed around the receiver.
- 43. (previously presented): The hearing aid according to claim 17, wherein said shell is manufactured utilizing a rapid prototyping technique.